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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,534	10/06/2003	Anthony Yap Wong	PS-105	2533
23933	7590	01/04/2005	EXAMINER	
STUART T AUVINEN 429 26TH AVENUE SANTA CRUZ, CA 95062-5319			NGUYEN, LONG T	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/605,534

**Applicant(s)**

WONG, ANTHONY YAP

**Examiner**

Long Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2-6 and 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7-13 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/6/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. Claims 1, 7-13 and 17-20 corresponding to Figure 4.
- II. Claims 1-6 and 14-16 corresponding to Figure 5.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the

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examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. Stuart Auvinen on 12/20/04 a provisional election was made with traverse to prosecute the invention of Specie I (Figure 4), claims 1, 7-13 and 17-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-6 and 14-16 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a) because Figures 3-5 fail to show "VDD" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

The drawings are also objected to because the blank-box 36, 46 and 66 in Figures 3, 4 and 5 are not provided with text labeled. Further, in Figure 4, "VREF" (which is input to the (+) terminal of the op-amp 43) should be changed to --VIN-- and "VIN" (which is input to the (-) terminal of the op-amp 43) should be changed to --VREF-- so that Figure 4 is consistent with the specification and also consistent with Figure 3.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

4. The disclosure is objected to because of the following informalities: on line 1 of paragraphs [0038] and [0041], it appears that "at 40 degrees" should be changed to --at -40 degrees--. Appropriate correction is required.
5. The specification is also objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In particularly, the specification fails to provide the limitation which the stable voltage on the stable node is independent of a supply voltage to the comparator (claims 11 and 18), and the comparator is powered by the supply voltage (claim 13). Note that the specification, paragraph [0031], only discloses that the band-gap voltage  $V_{bg}$  is independent of power supply voltage  $V_{dd}$ , but does not disclose that  $V_{dd}$  is the supply voltage to the comparator, or the comparator is powered by  $V_{dd}$ . Appropriate correction is required. Note that no new matter should be entered.

***Claim Objections***

6. Claim 20 is objected to because of the following informalities: on line 3, “is a the” should be changed to --is the--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 7-13 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, this claim is indefinite because is incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. In particularly, there is no connection between the “stable node” and other elements in the circuit, i.e., the “stable node” is floating.

Also in claim 1, the recitation “the reference voltage not varying with variations in the second current” recited on line 22 is indefinite because it is misdescriptive with respect to the operation of the circuit. In particularly, the voltage  $V_{ref}$  (at the junction of transistor 44 and resistor 45 in Figure 4) depends on the output current of transistor 44, and thus when the output of current 44 varies then the voltage  $V_{ref}$  is also varied according to Ohm’s law  $V = I \cdot R$ .

Claims 7-13 are indefinite because they include the indefiniteness of claim 1.

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Also in claim 11, the recitation “a supply voltage” on line 4 is indefinite because it is not clear whether the above recitation is the same as “a supply voltage” recited on line 7 of independent claim 1.

Claims 12 and 13 are also indefinite because they include the indefiniteness of claim 11.

With respect to claim 17, the recitation “whereby variations in the first current due to temperature variations are compensated by variations in the second current that are due to the temperature variations” on the last 3 lines of the claim is indefinite because it appears that the above recitation is misdescriptive since the specification only disclosed that the voltages  $V_{ref}$  and  $V_{in}$  drifts up or down together in the same direction when variances in temperatures or fabrication process (see paragraphs [0031], [0037], and [0038]). Thus, it is not clear how the variations in the first current due to temperature variations are compensated by variations in the second current that are due to the temperature variations. Clarification and/or appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Talaga, Jr. (USP 5,942,921) in view of Kuo (USP 6,661,713).

Insofar as understood in claim 1, Talaga, Jr. discloses in Figure 3 a circuit, which includes: a source-input node (gate of 306) having a source-input voltage ( $V_{IN}$ ) that is varied by

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a voltage source (i.e., the source that is used to generate  $V_{IN}$ ), the circuit in Figure 3 sensing the source-input voltage of the source-input node; a voltage node (node receiving voltage  $+V_{CC}$ ) having a voltage ( $+V_{CC}$ ); a first current source (306) responsive to the source-input voltage ( $V_{IN}$ ) for generating a first current (current of 306); a first resistor (308) coupled to the first current source (306) for generating a compare-input voltage (voltage at the junction node of 306 and 308 which is input to the (-) terminal of 202) in response to the first current and varying with variations in the first current; a second current source (302) for generating a second current (current of 302) that is insensitive to variations in the source-input voltage (because 302 does not respond to  $V_{IN}$ ); a second resistor (304) coupled to the second current source for generating a reference voltage (voltage at the junction node of 302 and 304 which is input to the (+) terminal of 202); and a comparator (202) for comparing the compare-input voltage to the reference voltage (i.e., comparing voltages at the (-) and the (+) terminals of the comparator 202) and generating an output voltage ( $V_{OUT}$ ) indicating when the compare-input voltage is above the reference voltage (i.e., based on the logic value of  $V_{OUT}$ ). The Talaga, Jr. reference does not disclose that the voltage  $+V_{CC}$  is a stable voltage that is insensitive to changes in a supply voltage. However, the Kuo reference discloses a band-gap circuit (Figure 2) that provides a stable voltage and is insensitive to temperature, process and power supply voltage variations (Col. 2, lines 18-22). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the circuit in Figure 2 of the Talaga, Jr. reference by using specific band-gap circuit (Figure 2 of Kuo) for generating/providing the voltage  $+V_{CC}$  in Figure 2 of the Talaga, Jr. reference for the purpose of improving the performance of the circuitry such as the comparison result is more accurate because the voltage



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generated by the Kuo reference is stable and is insensitive to power supply voltage, temperature and process variations. Thus, this modification/combination meets all the limitations of claim 1.

***Allowable Subject Matter***

11. Claims 7-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if amended to overcome the indefinite problems set forth above.

12. Claims 17-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 20, 2004

A handwritten signature in cursive script, appearing to read "Long Nguyen", with a long, sweeping horizontal line extending to the right.

Long Nguyen  
Primary Examiner  
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